



1 **CLAIMS**

2 1. [withdrawn] In a vehicle having a right and left side and substantially massive
3 components, and having at least one fixed body member connected with substantial rigidity
4 to substantially all of the substantially massive components of said vehicle, a vehicle
5 structure having an operating position attained during normal driving conditions and an
6 extended position attained at the time of occupant access to the vehicle, said vehicle structure
7 having a means to divert the impact energy in lateral impacts to be absorbed by said vehicle
8 through the at least one fixed body member while releasing the occupants each having mass,
9 weight, left and right sides, a back and a bottom, to move independently of said vehicle, in a
10 passenger support mechanism with a plurality of elements in a predetermined controlled
11 fashion, in order to minimize injury to such occupants.

12 2. [Currently ammended] In a vehicle having a right and left side and substantially massive
13 components, and having at least one fixed body member connected with substantial rigidity
14 to substantially all of the substantially massive components of said vehicle, a vehicle
15 structure having an operating position attained during normal driving conditions and an
16 extended position attained at the time of occupant access to the vehicle, said vehicle structure
17 having a means to divert the impact energy in lateral impacts to be absorbed by said vehicle
18 through the at least one fixed body member while releasing the occupants each having mass,
19 weight, left and right sides, a back and a bottom, to move independently of said vehicle, in a
20 passenger support mechanism comprising ejecting elements and non-ejecting elements in a
21 predetermined controlled fashion, in order to minimize injury to such occupants, said vehicle
22 structure further comprising:

23 a) at least one pair of secondary slides each with a first face and a second face, attached by
24 said first face to the at least one fixed body member on the left side and the right side of

1 the vehicle respectively, the members of each pair being mounted at the same
2 longitudinal position of said vehicle;

3 b) a plurality of passenger support mechanisms each having ejecting elements and each of
4 said passenger support mechanisms mounted in pairs on each of the left and the right
5 sides of the said vehicle on at least one lateral axis;

6 c) at least one pair of a safety beam lower elements each having a first face and a second
7 face, and said second face attached to the second face of said secondary slides such that,
8 each of said safety beam lower elements are normally fixedly attached by said second
9 face to the second face of a member of said pair of secondary slides, but become
10 decoupled and thereafter slidably attached by said second face to said secondary slides
11 along a lateral axis when a lateral shear force greater than a predetermined force is
12 applied to said first face relative to said second face of said secondary slides allowing
13 said safety beam lower elements attached to said second face of said secondary slides to
14 slide along said lateral axis relative to said secondary slides, said safety beam lower
15 elements mounted on each of said secondary slides being constructed such that after they
16 are decoupled, they can be guided laterally by, and are slidably attached to at least one
17 member of a pair of said secondary slides and further positioned on said secondary
18 slides at all times such that they are not obstructed by any elements of the vehicle in the
19 event that said safety beam lower elements need under collision conditions to traverse the
20 center of the vehicle to the further side of the vehicle;

21 d) at least one pair of safety beam upper elements each member of said pair having a first
22 face and a second face, and each of the members of said safety beam upper elements
23 mounted with its first face to the first face of each member of said pair of said safety
24 beam lower element on the left and the right sides of the vehicle, and fixedly attached by
25 said second face to the ejecting elements of one of the passenger support mechanisms

1 e) at least one shock-absorbing device and at least one force distributing protector shield
2 both installed to protect each of the pair of passenger support mechanisms, on each of the
3 left and right sides of the vehicle, and locked to the fixed body members of the vehicle
4 when in the operating position; and

5 f) internal airbags, each mounted on the outer side of each of said passenger support
6 mechanisms, but inside said shock absorbers and protector shields, on both the left and
7 the right sides of the vehicle, such that upon detection of an impact event, the airbags
8 deploy next to said passenger support mechanism(s) to protect the occupants.

9 3. [previously presented] The vehicle structure of claim 2, wherein said ejecting elements of
10 said passenger support mechanisms each comprise an outer arm rest on the entry side
11 of the vehicle.

12 4. [previously presented] The vehicle structure of claim 2 further comprising a non ejecting
13 element of said passenger support mechanism attached to one of said safety beam lower
14 elements.

15 5. – 8. [Withdrawn]

16 9. ([previously presented] The vehicle structure of claim 2, wherein said ejecting elements
17 comprise one or more of the elements of said passenger support mechanism that support the
18 back, left side and right side of said passenger.

19 10. [previously presented] The vehicle structure of claim 9, wherein said ejection comprises,
20 a downward movement.

21 11. [previously presented] The vehicle structure of claim 9, wherein said ejection comprises,
22 a rearward movement.

23 12. [previously presented] The vehicle structure of claim 2, wherein said ejecting elements
24 comprise one or more elements supporting the pelvis and upper legs of said passenger.

- 1 13. [previously presented] The vehicle structure of claim 12, wherein said ejection
2 comprises, an upward movement.
- 3 14. [previously presented] The vehicle structure of claim 12, wherein said ejection
4 comprises, a forward movement.
- 5 15. [previously presented] The vehicle structure of claim 2, wherein said ejecting elements
6 comprise all support elements for the passenger, and wherein ejection raises the said ejecting
7 elements such that they can be subsequently be either translated or rotated over the sill of the
8 vehicle side to allow egress and ingress of said passenger.
- 9 16[Currently amended] In a vehicle having a right and left side and substantially massive
10 components, and having at least one fixed body member connected with substantial rigidity
11 to substantially all of the substantially massive components of said vehicle, a vehicle
12 structure having an operating position attained during normal driving conditions and an
13 extended position attained at the time of occupant access to the vehicle, said vehicle structure
14 having a means to divert the impact energy in lateral impacts to be absorbed by said vehicle
15 through the at least one fixed body member while releasing the occupants each having mass,
16 weight, left and right sides, a back and a bottom, to move independently of said vehicle, in a
17 passenger support mechanism comprising ejecting elements and non-ejecting elements in a
18 predetermined controlled fashion, in order to minimize injury to such occupants, said vehicle
19 structure further comprising:
20 a) at least one pair of secondary slides each with a first face and a second face, attached by
21 said first face to the at least one fixed body member on the left side and the right side of
22 the vehicle respectively, the members of each pair being mounted at the same
23 longitudinal position of said vehicle;

- 1 b) a plurality of passenger support mechanisms each having two interlocking parts
2 consisting of an ejecting element that may be displaced to facilitate egress and ingress,
3 and non-ejecting element and each of said passenger support mechanisms mounted in
4 pairs on each of the left and the right sides of the said vehicle on at least one lateral axes
5 said non-ejecting element of each passenger support mechanism, having a support face
6 attached to the second face of said secondary slides such that, each of said non-ejecting
7 elements of said passenger support mechanisms are normally fixedly attached by said
8 support face to the second face of a member of said pair of secondary slides, but
9 become decoupled and thereafter slidably attached by said support face to said secondary
10 slides along a lateral axis when a lateral shear force greater than a predetermined force is
11 applied to said first face relative to said second face of said secondary slides allowing
12 said non-ejecting elements of said passenger support mechanism to detach from said
13 secondary slides and slide along said lateral axis relative to said secondary slides, said
14 non-ejecting elements of the passenger support mechanism mounted on each of said
15 secondary slides being constructed such that after they are decoupled, they can be guided
16 laterally by, and are slidably attached to either member of a pair of said secondary slides
17 and further positioned on said secondary slides at all times such that they are not
18 obstructed by any elements of the vehicle in the event that said element of the passenger
19 support mechanism needs under collision conditions to traverse the center of the vehicle
20 to the further side of the vehicle, said two interlocking parts of said passenger support
21 mechaism being locked together while the vehicle is in operation and unlocked for egress
22 and ingress of the passenger;
- 23 c) at least one shock-absorbing device and at least one force distributing protector shield
24 both installed to protect each member of the pair of passenger support mechanisms, on
25 each of the left and right sides of the vehicle, said force distributing protector shield

1 being pivotally mounted to the fixed members of the vehicle and locked to the fixed
2 body members of the vehicle when in the operating position; and

3 d) preinflated internal airbags with a first face and a second face, the first face mounted on
4 the outer side of each of the ejecting elements of the passenger support mechanism, and
5 said second face attached to said shock absorbers and protector shields, on both the left
6 and the right sides of the vehicle, such that upon detection of an impact event, the airbags
7 deploy next to said passenger support mechanisms and deploy upwards and inwards to
8 protect the passengers.

9 17. – 40. [Withdrawn]

10 41. [previously presented] A vehicle with a vehicle structure supporting an occupant in a
11 passenger support mechanism with an ejecting part and a non-ejecting part, said
12 vehicle structure having an operating position attained during normal driving
13 conditions and an extended position attained at the time of occupant access to the
14 vehicle, wherein in the extended position of said vehicle structure at the time of said
15 access to the vehicle by said occupant, the ejecting part displaces from said non-
16 ejecting part to allow egress and ingress of said occupant without obstruction to said
17 occupant, and said ejecting part having a means to provide at least one of lateral and
18 vertical support to said occupant and said non ejecting part having a means to provide
19 lateral support to the occupant in the operating position.

20 42. [previously presented] A vehicle with a vehicle structure as in 41, wherein said passenger
21 support mechanism is decoupled from said vehicle during lateral impact thereby
22 allowing said occupant in said passenger support mechanism to move in a predefined
23 controlled manner to minimize injury.

- 1 43. [Currently ammended] In a vehicle having a right and left side and substantially
2 massive components, and having at least one fixed body member connected with substantial
3 rigidity to substantially all of the substantially massive components of said vehicle, a vehicle
4 structure having an operating position attained during normal driving conditions and an
5 extended position attained at the time of occupant access to the vehicle, said vehicle structure
6 having a means to divert the impact energy in lateral impacts to be absorbed by said vehicle
7 through the at least one fixed body member while releasing the occupants each having mass,
8 weight, left and right sides, a back and a bottom, to move independently of said vehicle, in a
9 passenger support mechanism comprising ejecting elements and non-ejecting elements in a
10 predetermined controlled fashion, in order to minimize injury to such occupants, said vehicle
11 structure further comprising:

12 a) at least one pair of secondary slides, attached to the at least one fixed body member on
13 the left side and the right side of the vehicle respectively, the members of each pair being
14 mounted at the same longitudinal position of said vehicle;

15 b) a plurality of passenger support mechanisms each having an ejecting element and a non-
16 ejecting element and each of said passenger support mechanisms mounted in pairs on
17 each of the left and the right sides of the said vehicle on at least one lateral axis;

18 c) a means to attach each of said secondary slides to each of said non ejecting elements of
19 said passenger support mechanisms such that, said non-ejecting element is fixedly
20 attached to said secondary slide, but becomes decoupled and thereafter slidably attached
21 to said secondary slide along a lateral axis when a lateral shear force greater than a
22 predetermined force is applied to said non ejecting element with regard to said secondary
23 slide allowing said non-ejecting part to slide along said lateral axis relative to said
24 secondary slide;

- 1 d) a means to attach each of said ejecting elements to said non-ejecting elements such that
- 2 said ejecting elements may be displaced to allow egress and ingress of said occupant
- 3 without obstruction;
- 4 e) at least one shock-absorbing device and at least one force distributing protector shield
- 5 both installed to protect each of the pair of passenger support mechanisms, on each of the
- 6 left and right sides of the vehicle, and locked to the fixed body members of the vehicle
- 7 when in the operating position; and
- 8 f) internal airbags, each mounted on the outer side of each of said passenger support
- 9 mechanisms, but inside said shock absorbers and protector shields, on both the left and
- 10 the right sides of the vehicle, such that upon detection of an impact event, the airbags
- 11 deploy next to said passenger support mechanisms to protect the occupants.

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